

Application No. 10/588,850
Reply to Office Action of June 10, 2008

SUPPORT FOR THE AMENDMENTS

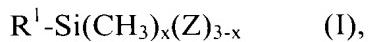
Claims 3, 6, 7 and 9 have been amended for clarity. Newly-added Claims 15-21 are supported by the specification and the original claims. Accordingly, no new matter is believed to have been added to the present application by the amendments submitted above.

REMARKS

Claims 1-7, 9, 10-13 and 15-21 are pending. Favorable reconsideration is respectfully requested.

The present invention relates to a highly filled polyolefin compound comprising a maleic-anhydride-modified polyolefin and at least one amino-functional silicon compound, from the following series:

- a) an aminosilane of the general formula I



where the groups Z are identical or different and Z is an alkoxy group having from 1 to 4 carbon atoms, x is 0 or 1, and R¹ is an amino group of the formula H₂N-[(CH₂)₂NH]_y-(CH₂)₃-, where y is 0 or 1 or 2,

- b) an aminosilane of the general formula II



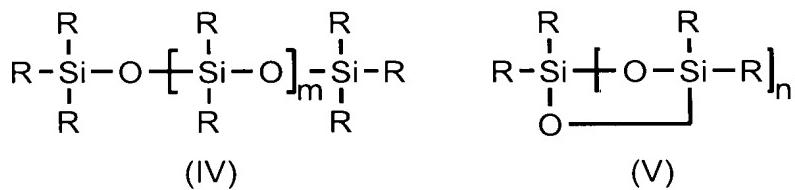
where the groups Z are identical or different and Z is an alkoxy group having from 1 to 4 carbon atoms, x and v, independently, are 0 or 1, the groups R² are identical or different, and R² is a linear, cyclic, or branched alkyl group having from 1 to 20 carbon atoms,

- c) a bisaminosilane of the general formula (III)



where the groups Z are identical or different and Z is an alkoxy group having from 1 to 4 carbon atoms, and w and z, independently of one another, are 0, 1 or 2,

- d) aminosiloxane oligomers of the general formulae (IV) and (V),



where the substituents R are composed of

aminopropyl-functional groups of the formula $-(\text{CH}_2)_3\text{NH}_2$ or $-(\text{CH}_2)_3\text{NHR}'$

or $-(\text{CH}_2)_3\text{NH}(\text{CH}_2)_2\text{NH}_2$ or $-(\text{CH}_2)_3\text{NH}(\text{CH}_2)_2\text{NH}(\text{CH}_2)_2\text{NH}_2$, where R' is a linear, branched, or cyclic alkyl group having from 1 to 18 carbon atoms, or an aryl group having from 6 to 12 carbon atoms, and

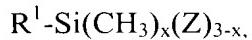
methoxy, ethoxy and/or propoxy groups, and

where appropriate, alkyl, alkenyl, isoalkyl or cycloalkyl groups having from 1 to 18 carbon atoms, and/or aryl groups having from 6 to 12 carbon atoms,

where at most one aminopropyl-functional group has bonding to a silicon atom and the degree of oligomerization for compounds of the general formula IV is in the range

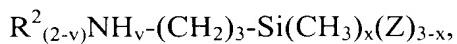
$2 \leq m \leq 30$, and that for compounds of the general formula V is $3 \leq n \leq 16$,

- e) a mixture composed of at least two of the amino-functional silicon compounds selected from the group of an aminosilane of the general formula,



where the groups Z are identical or different and Z is an alkoxy group having from 1 to 4 carbon atoms, x is 0 or 1, and R¹ is an amino group of the formula $\text{H}_2\text{N}-(\text{CH}_2)_2\text{NH}]_y-(\text{CH}_2)_3-$, where y is 0 or 1 or 2,

an aminosilane of the general formula



where the groups Z are identical or different and Z is an alkoxy group having from 1 to 4 carbon atoms, x and v, independently, are 0 or 1,

the groups R² are identical or different, and R² is a linear, cyclic, or branched alkyl group having from 1 to 20 carbon atoms or an aryl group having from 6 to 12 carbon atoms,

a bisaminosilane of the said general formula (III), and

the aminosiloxane oligomers of the said general formulae (IV) and (V),

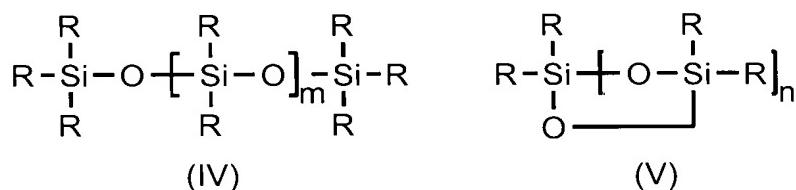
or

- f) a mixture of at least one amino-functional silicon compound with at least one vinyl silane and/or alkyl silane.

See Claim 1.

The rejection of the claims under 35 U.S.C. §102(b) over Roberts et al. (U.S. 6,288,144) is respectfully traversed. The reference fails to disclose the claimed filled polyolefin compound.

An important feature of Claim 1 is that the aminosiloxane oligomers of the general formulae (IV) and (V):



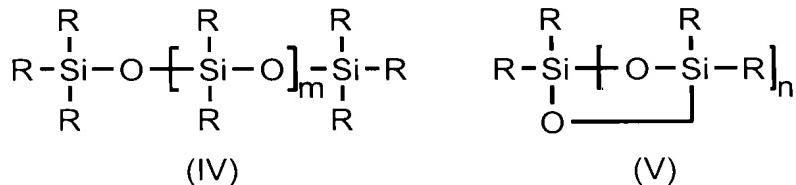
contain the substituents R are composed of an aminopropyl-functional groups of the formula -(CH₂)₃-NH₂ or -(CH₂)₃-NHR' or -(CH₂)₃-NH(CH₂)₂-NH₂ or -(CH₂)₃-NH(CH₂)₂-NH(CH₂)₂-NH₂.

While Roberts et al. disclose a filled polyolefin (see the Abstract), the reference fails to disclose silicone components having aminopropyl-functional groups as specified in Claim 1. This is shown in column 10, where there is no explicit description of an isopropyl group functionalized with an amino group. Rather, the reference discloses that R₁ through R₁₂ may be alkyl groups, aryl groups and “other” monovalent radicals containing a “moiety” selected

from a large group which includes an amine group. Accordingly, the reference fails to disclose aminopropyl-functional groups as specified in Claim 1. Therefore, Roberts et al. fail to disclose the claimed filled polyolefin compound. Withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 9 and 10 under 35 U.S.C. §103(a) over Roberts et al. in view of Schlosser et al. is respectfully traversed. The cited references fail to suggest the claimed process.

An important feature of Claim 1 is that the aminosiloxane oligomers of the general formulae (IV) and (V):



contain the substituents R are composed of an aminopropyl-functional groups of the formula -(CH₂)₃-NH₂ or -(CH₂)₃-NHR' or -(CH₂)₃-NH(CH₂)₂-NH₂ or -(CH₂)₃-NH(CH₂)₂-NH(CH₂)₂-NH₂.

While Roberts et al. disclose a filled polyolefin (see the Abstract), the reference fails to disclose silicone components having aminopropyl-functional groups as specified in Claim 1. This is shown in column 10, where there is no explicit description of an isopropyl group functionalized with an amino group. Rather, the reference discloses that R₁ through R₁₂ may be alkyl groups, aryl groups and “other” monovalent radicals containing a “moiety” selected from a large group which includes an amine group. Accordingly, the reference fails to disclose aminopropyl-functional groups as specified in Claim 1, and, therefore, Roberts et al. fail to disclose the claimed filled polyolefin compound. Since Roberts et al. fail to disclose the claimed filled polyolefin, that reference in combination with Schlosser et al. fails to

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disclose or suggest preparing the polyolefin compound as claimed. Accordingly, withdrawal of this ground of rejection is respectfully requested.

The rejection of the claims under 35 U.S.C. §112, second paragraph, is believed to be obviated by the amendments submitted above. Claims 3, 6, 7 and 9 have been amended to address the issues raised in the Office Action. In view of those amendments, the claims are definite within the meaning of 35 U.S.C. §112, second paragraph. Withdrawal of this ground of rejection is respectfully requested.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

Respectfully submitted,

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